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09/856,608	06/27/2001	Shinya Kimoto	F-6996	9941

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Jordan & Hamburg
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New York, NY 10168

EXAMINER

CANTELMO, GREGG

ART UNIT PAPER NUMBER

1745

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,608

Applicant(s)

KIMOTO ET AL.

Examiner

Gregg Cantelmo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. In response to the amendment received October 10, 2003:
 - a. Claims 1-6, and 8 are pending with 7 and 9-10 having been cancelled;
 - b. The drawing objection is withdrawn in light of the proposed drawing amendment;
 - c. The specification objection stands;
 - d. The prior art rejections of record are withdrawn in light of the amendment except for the modified 102(a) rejection of EP '620 as set forth herein. The modifications to the rejection are necessitated by amendment. The scope of the independent claims has been further defined by the amendment wherein new limitations (such as the binding band limitation) have been introduced thereby permitting finality of this office action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Battery pack with reduced temperature differential between cells.

Response to Amendment

4. The proposed amendment to the title is not held to be clear enough with respect to the claimed invention.

Claim Objections

5. Claim 1 is objected to because of the following informalities: claim 1 recites the phrases "cells and being" at line 8. Applicant is advised to correct the grammar of this portion of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-5 and 6 when linked to independent claim 2, recite a plurality of cells wherein the plurality of cells are linked together at their short sides to form a plurality of rows arranged in parallel. Each of the cells is rectangular having short sides and narrow sides. Thus the short sides in a rectangular shape are on opposite ends of each

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cell. By linking the plurality of cells at their short sides, the only possible configuration is a single row of the cells since the linking will occur in a single plane. It is held that these claims are attempting to claim the configuration as shown in Figs. 8 and 9 and have been interpreted as such. Clarity is respectfully requested.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by EP 0952620-A (EP '620).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

EP '620 discloses a rechargeable battery comprising a plurality of cells 1; each of the cells including elements for electromotive force (anodes, cathodes, electrolytes, etc.) and being formed in a rectangular shape having short sides with a narrow width and long sides with a wide width and each cell including ribs on the sides of the cell (Fig. 3). The plurality of cells are linked together at the short sides of their battery housings (Figs. 1 and 3) a first binding plate 21 adjacent the long sides of the battery cells and having an outer side parallel with the short sides of the housings and second

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binding plate 22 adjacent the long sides of the battery cells and having an outer side parallel with the short sides of the housings at least one binding band (narrow bands 26 or alternatively the broad band 24 constituting a single broad band) overlapping the edge outer sides of the binding plates (outer relative to the portion of the binding plates which define the inner region of the housing). The binding plates forming coolant passages between the binding plates and ribs so that the coolant passes through the coolant passages (see Figs. 1 and 3 as applied to claim 1).

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Gregg Cantor 1/12/07

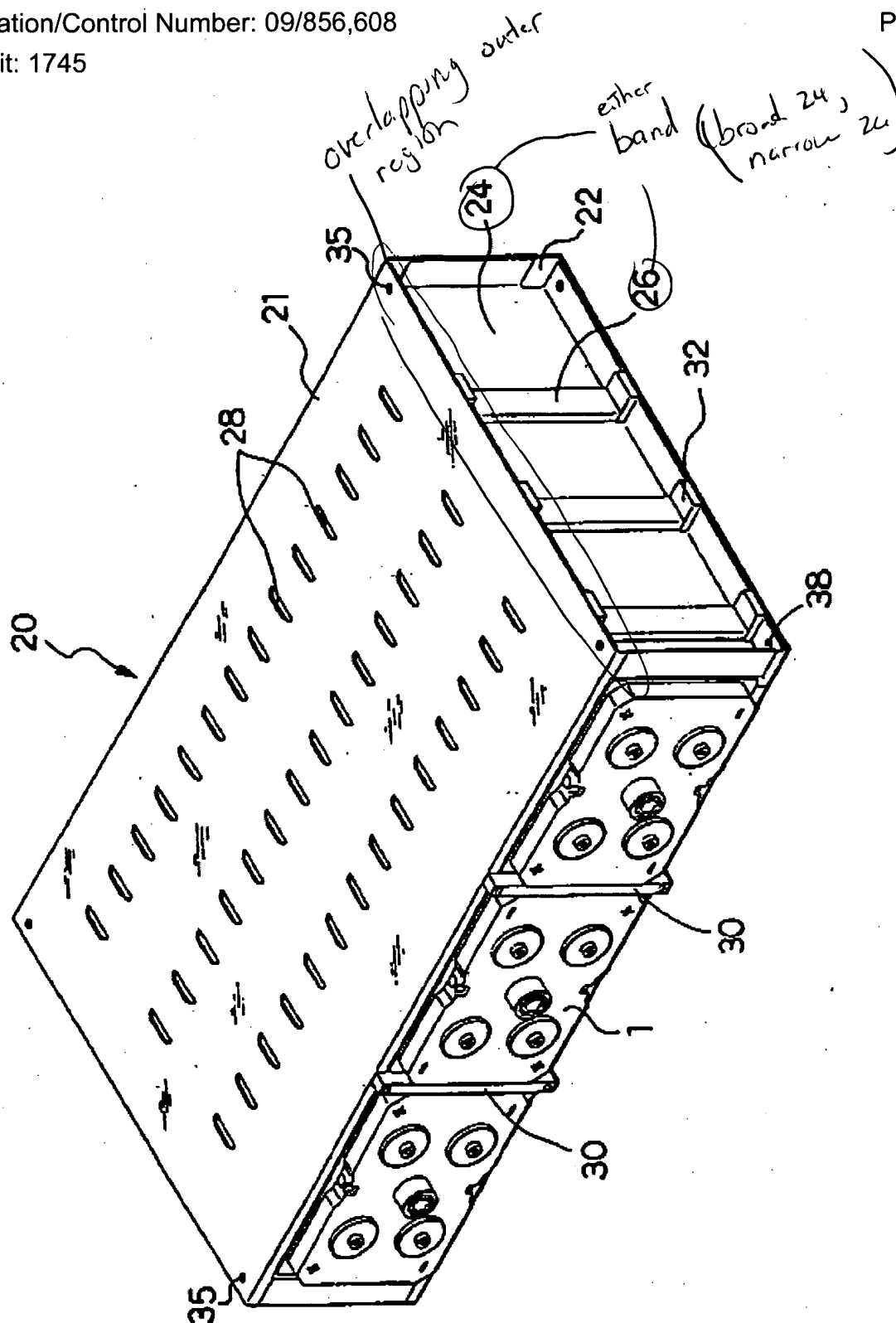


FIG. 1

J Cantelmo 1/12/04

EP '620 discloses a rechargeable battery comprising a plurality of cells 1; each of the cells including elements for electromotive force (anodes, cathodes, electrolytes, etc.) and being formed in a rectangular shape having short sides with a narrow width and long sides with a wide width and each cell including ribs on the sides of the cell (Fig. 3). The plurality of cells are linked together at the short sides of their battery housings (Figs. 1 and 3) and form a plurality of rows (Fig. 7) of battery modules, arranged in parallel wherein the rows of battery modules are adjacent to one another along the long sides of the battery cells and the rows are linked together (via terminal connector straps and the battery housing) to form a battery pack (see Fig. 7 and paragraph [0053]), each of the row of cell as stacked in Fig. 7 comprises the array shown in Fig. 1 (paragraph [0053]) and thus there is at least a first binding plate 21 adjacent the long sides of the battery cells and having an outer side parallel with the short sides of the housings and second binding plate 22 adjacent the long sides of the battery cells and having an outer side parallel with the short sides of the housings at least one binding band (either narrow bands 26 or alternatively the broad band 24 constituting a single broad band) overlapping the edge outer sides of the binding plates (outer relative to the portion of the binding plates which define the inner region of the housing). The binding plates forming coolant passages between the binding plates and ribs so that the coolant passes through the coolant passages (see Figs. 1 and 3 as applied to claim 2).

Heat transfer plates 21 and 22 of adjacent rows of cells 20 as shown in Fig. 7, are provided between the modules disposed in parallel (Figs. 2, 4 and 7 as applied to claim 3).

Heat transfer plates 21 and 22 are provided between the modules disposed in parallel and end heat transfer plates 23 and 24, exposed to the outside from the cells within individual cell units 20 as shown in Fig. 1 disposed in a multi-cell array as shown in Fig. 7 (see also paragraph [0053]), are linked to the ends of the heat transfer plates 21 and 22 in the direction which the battery modules are linked (Figs. 2, 4 and 7 as applied to claim 4).

Air as a coolant flows through the heat transfer plates (abstract as applied to claim 5).

A plurality of cells are linked together with the elements for electromotive force of each cell provided inside a battery casing (defined by plates 21-24) in which the individual battery housings 1 are integrally formed adjacent to one another between the short sides thereof. As shown in Fig. 1 and applied to claim 1, all of the cells in unit cell 20 are formed adjacent to one another between the short sides thereof (Figs. 2, 4 and 7 as applied to claim 6).

The plurality of cells are integrally linked with the linking position and linking direction varied as desired (Fig. 7 as applied to claim 8).

Response to Arguments

10. Applicant's arguments with respect to claims 1-6 and 8 are have been considered but are moot in view of the new ground(s) of rejection.

Applicant briefly argues that EP '620 does not teach of the overlapping binding band as claimed.

The Examiner respectfully disagrees.

The term band is not defined by the claim as explicitly described throughout the instant specification. Thus single side member 24 can be construed as a band since the claim does not specify the dimensions of the band and further since the prior art side member 24 is held to secure the side plates 21 and 22 and thus band the array together.

The claims do not preclude a binding arrangement as shown by EP '620. EP '620 discloses a binding member 24 (which relative to the breadth of the claim may read on a band as discussed above) and which further comprises smaller bands 26. Both member 24 and smaller bands 26 function as a unit which secures the binding plates and further wherein both the member 24 and smaller bands 26 overlap the outer side of the binding plates having bands (the term outer being interpreted as outer relative to inner side of the binding plates which define portions of the interior of the battery housing).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached at (571) 272-1292. FAX communications should be sent to FAX number: (703) 872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.


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Gregg Cantelmo
Patent Examiner
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January 12, 2004